FIG. 1 PRIOR ART

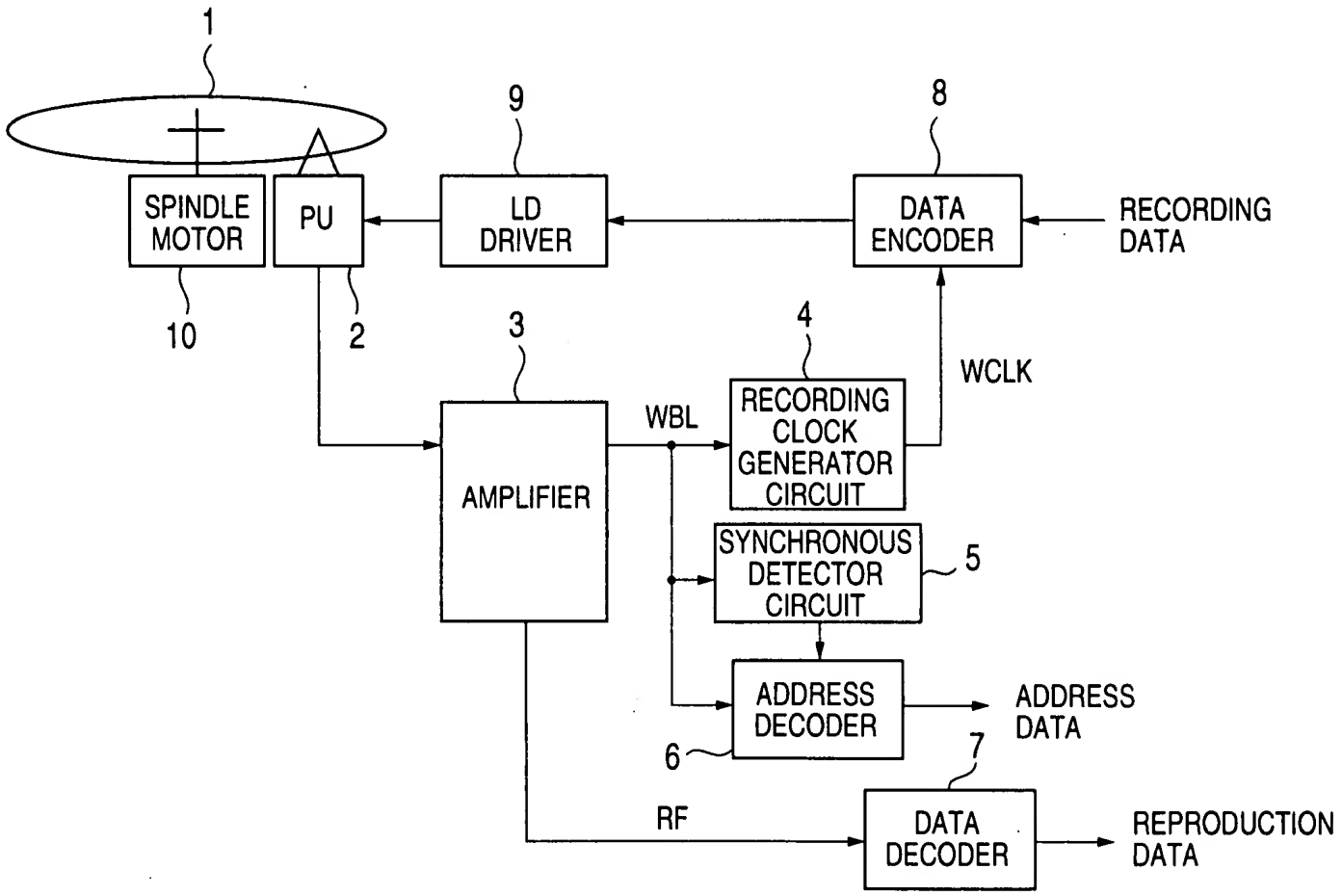


FIG. 2 PRIOR ART

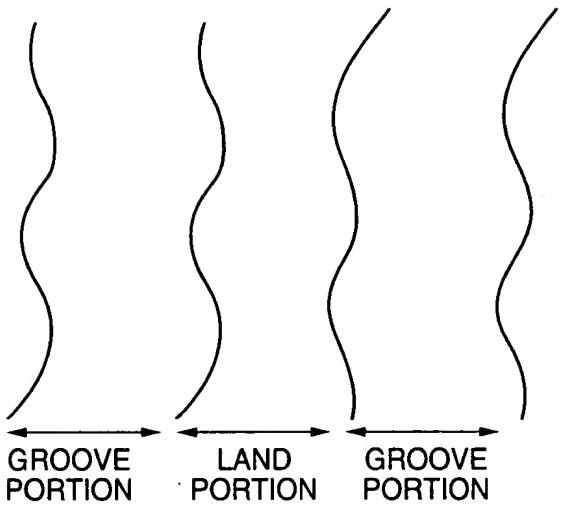


FIG. 3 PRIOR ART

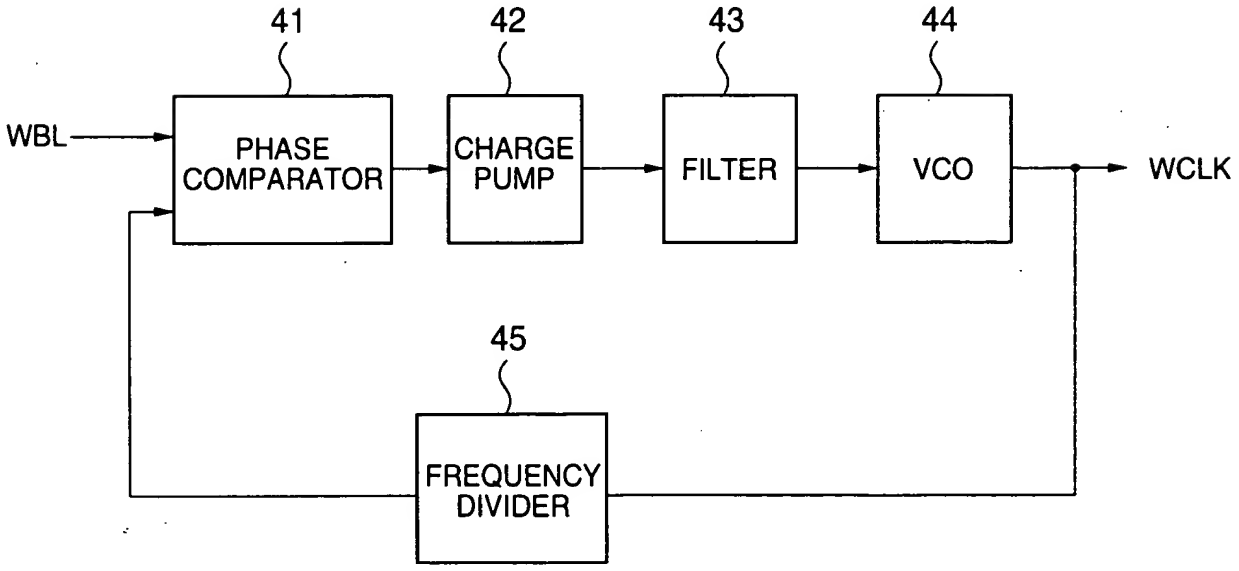


FIG. 4

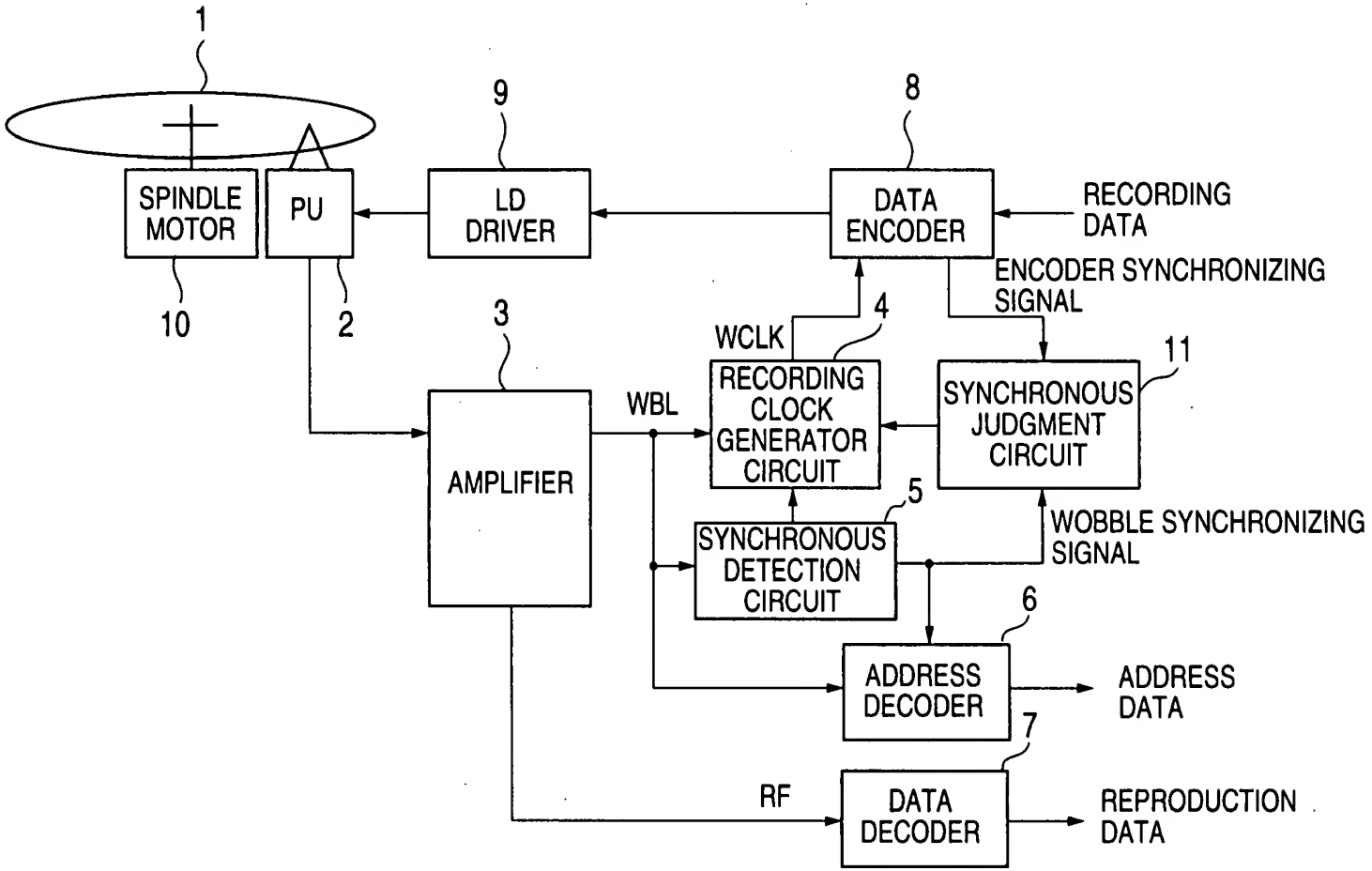


FIG. 5

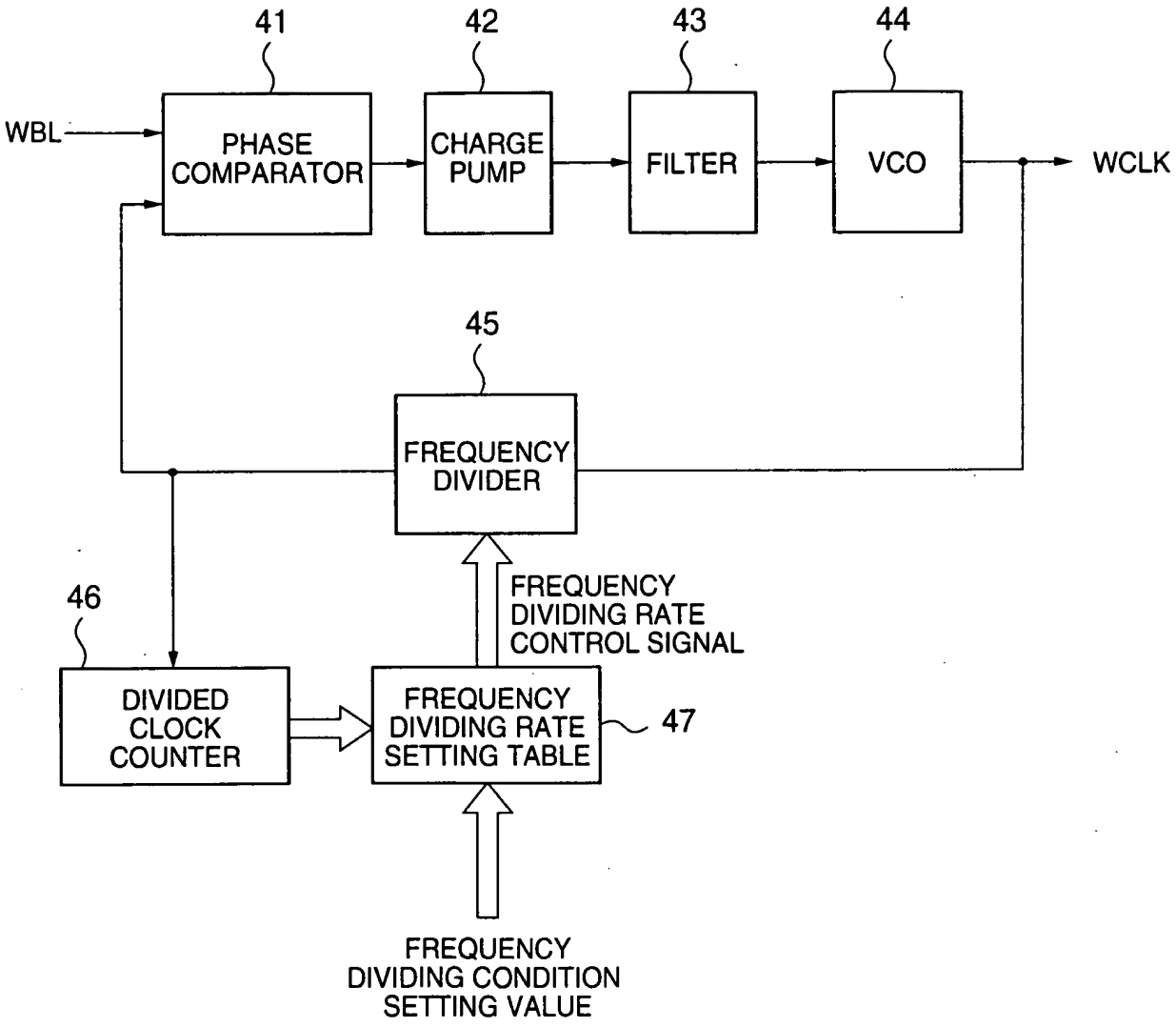

41
42
43
44
WBL
PHASE COMPARATOR
CHARGE PUMP
FILTER
VCO
WCLK
45
FREQUENCY DIVIDER
46
FREQUENCY DIVIDING RATE CONTROL SIGNAL
DIVIDED CLOCK COUNTER
FREQUENCY DIVIDING RATE SETTING TABLE
47
FREQUENCY DIVIDING CONDITION SETTING VALUE

FIG. 6

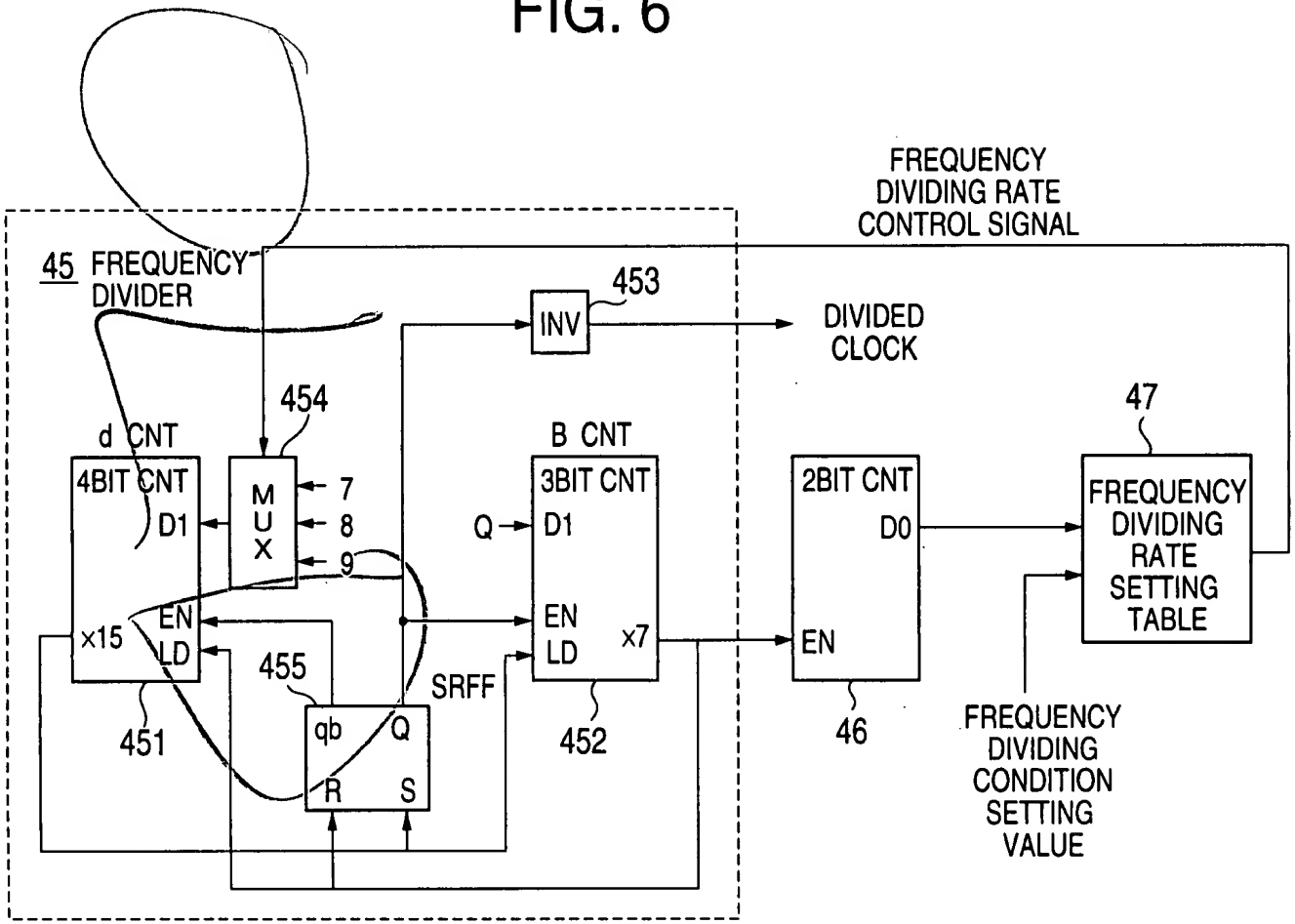


FIG. 7

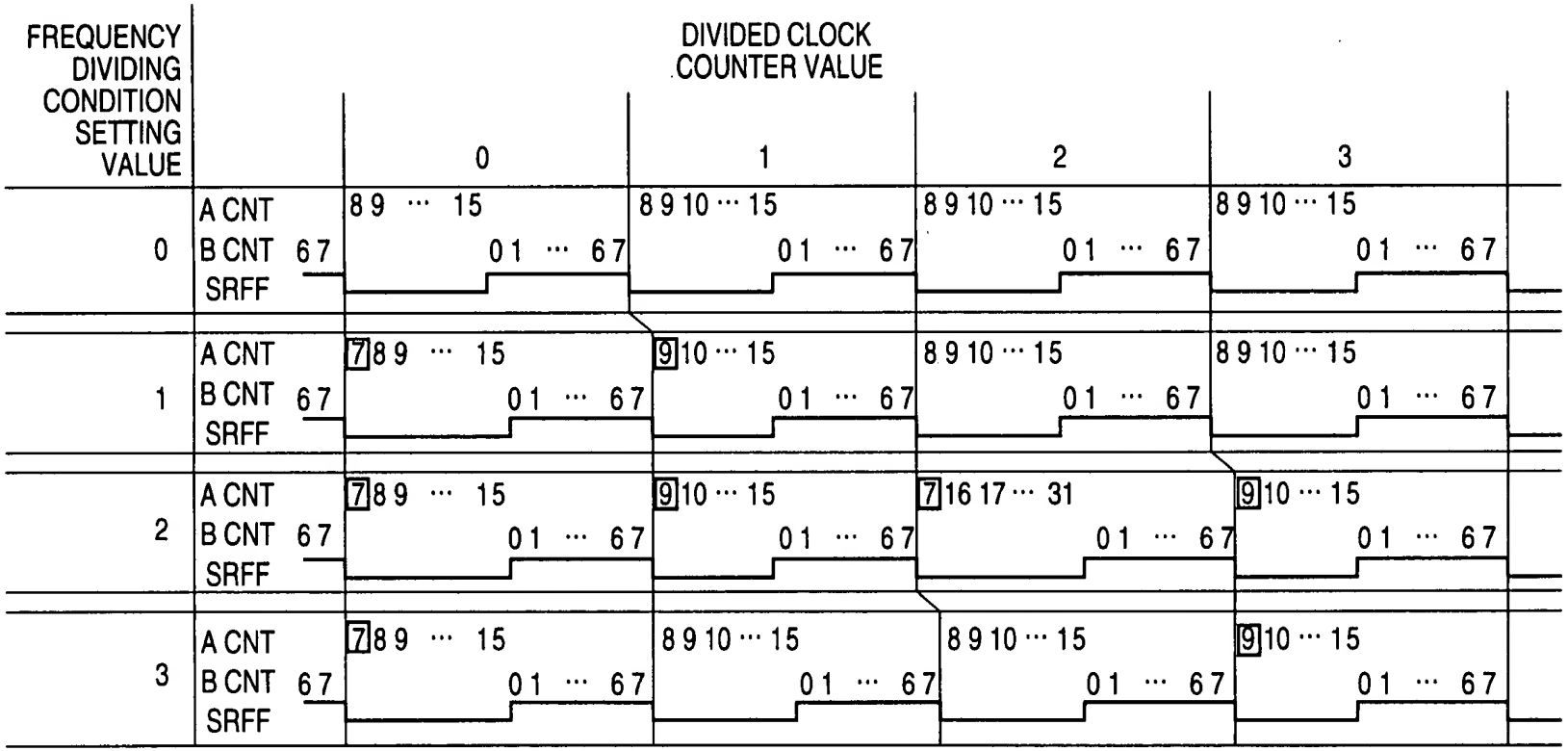


FIG. 8A

FIG. 8B

FIG. 8C

FIG. 8D

FIG. 8E

FIG. 8F

FIG. 8G

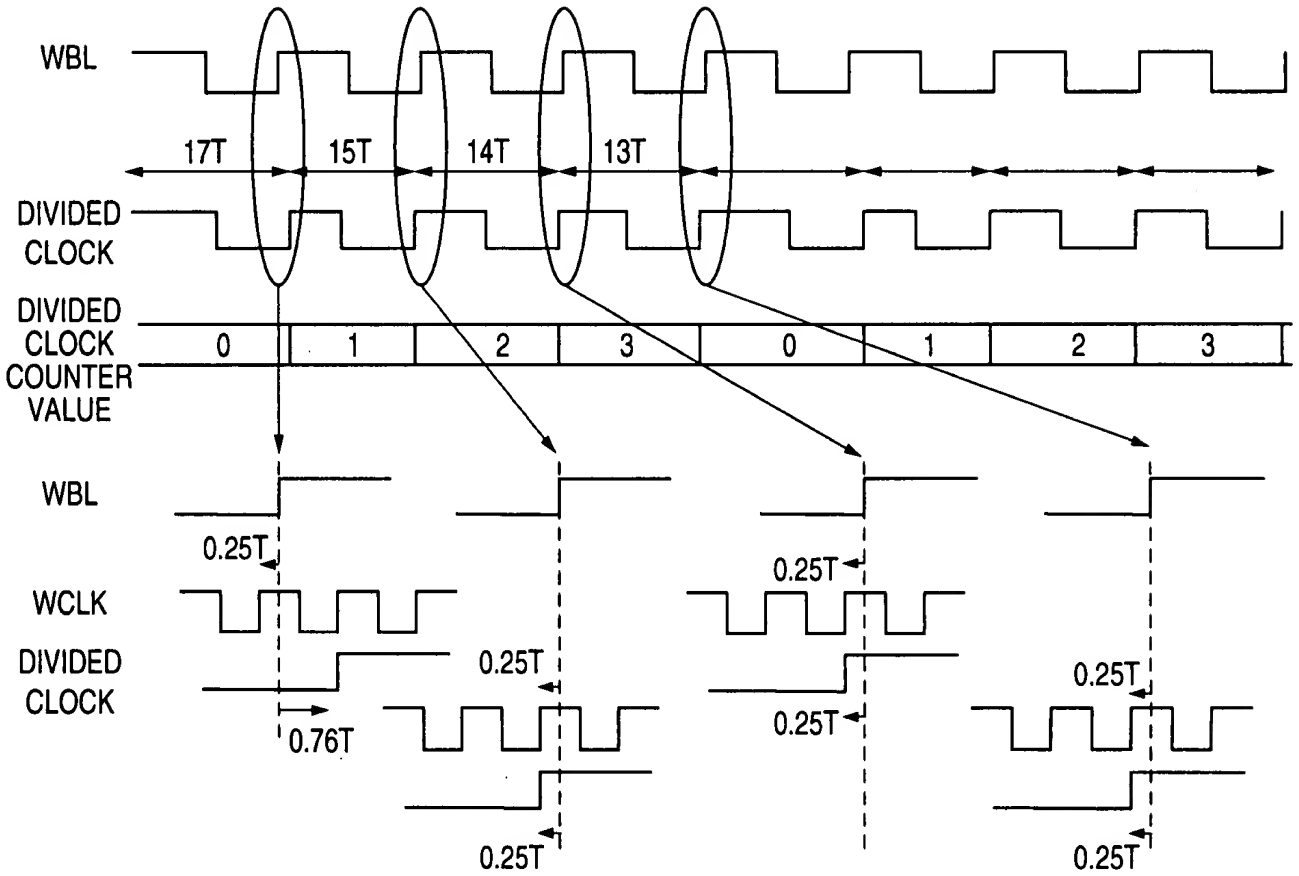


FIG. 9

FIG. 10

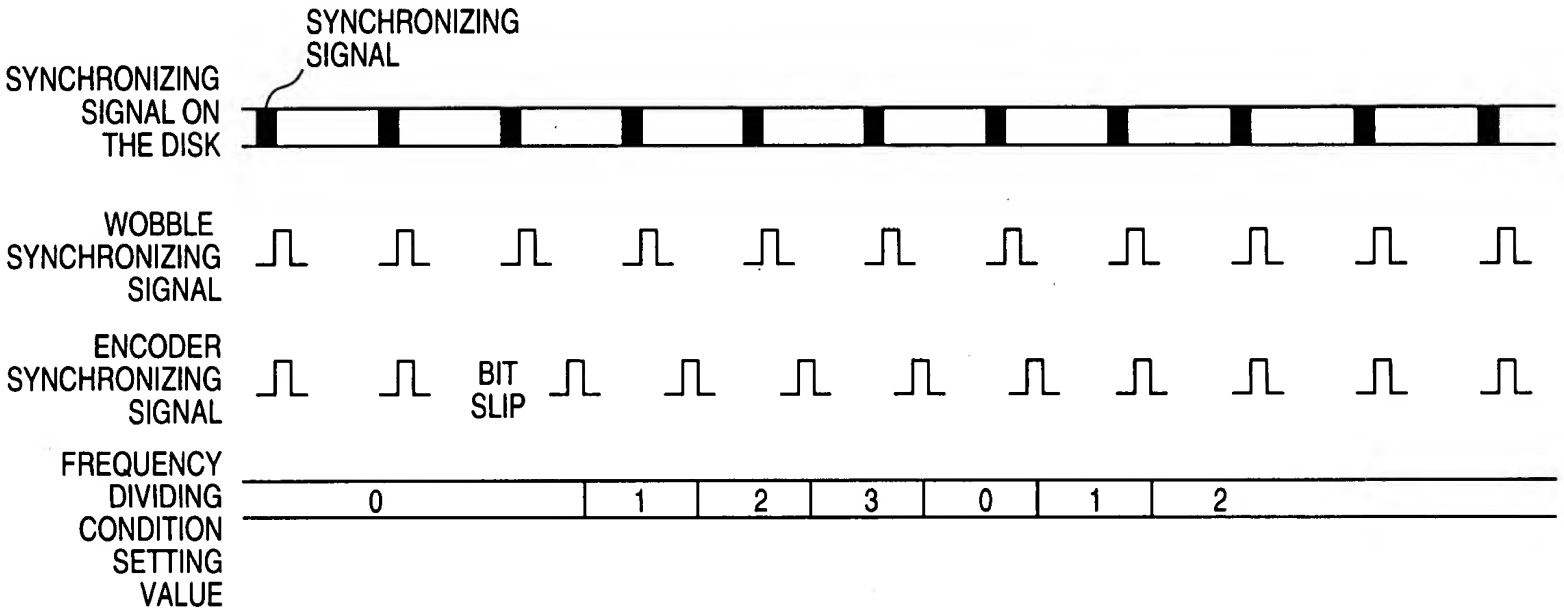


FIG. 11

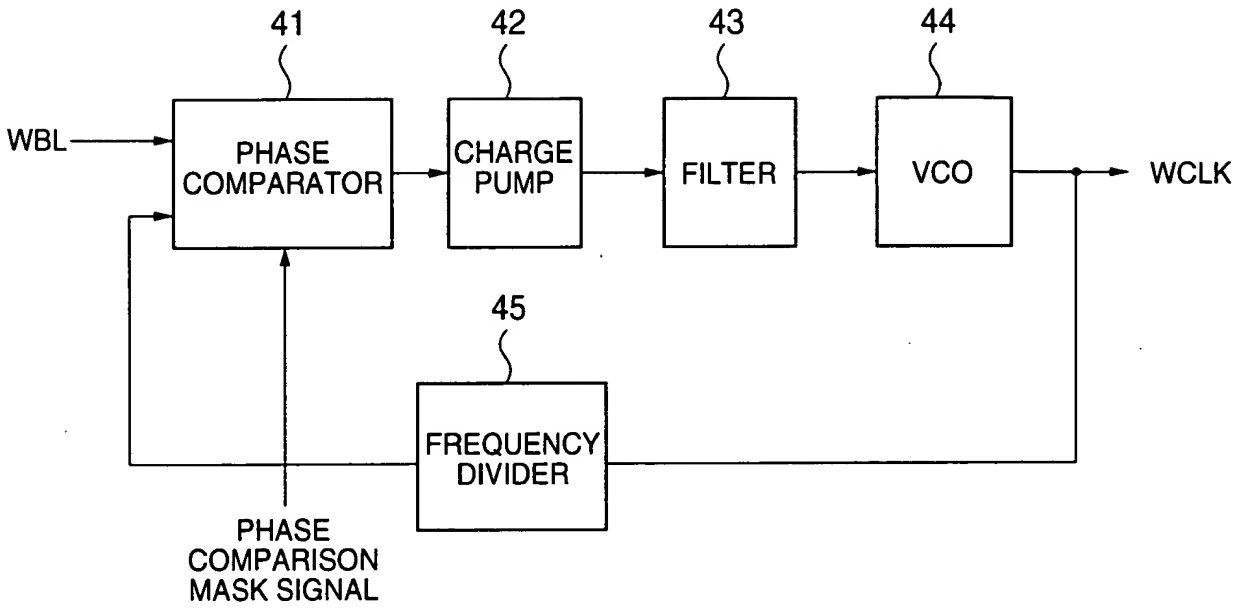

41
42
43
44
WBL
PHASE COMPARATOR
CHARGE PUMP
FILTER
VCO
WCLK
45
FREQUENCY DIVIDER
PHASE COMPARISON MASK SIGNAL

FIG. 12

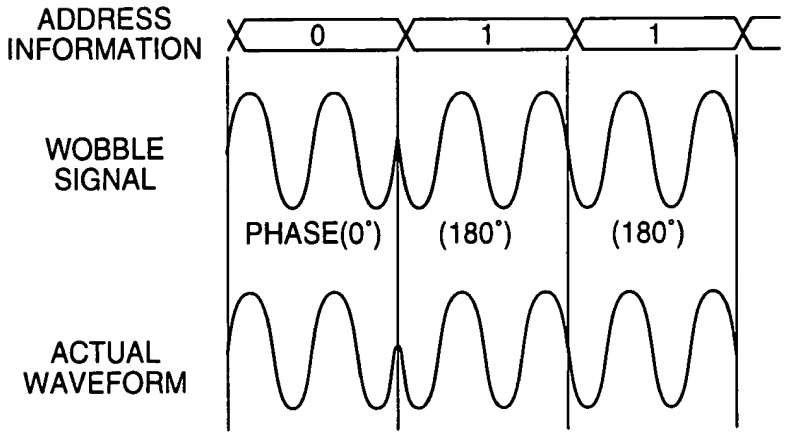

ADDRESS INFORMATION
0
1
1
WOBBLE SIGNAL
PHASE(0°)
(180°)
(180°)
ACTUAL WAVEFORM

FIG. 13

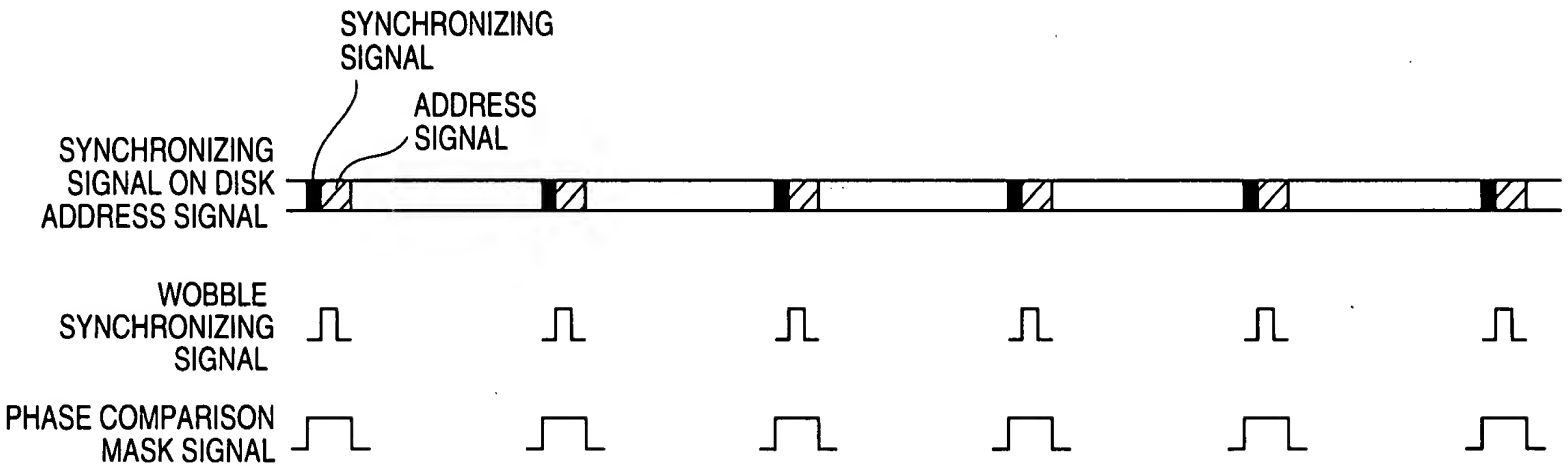


FIG. 14

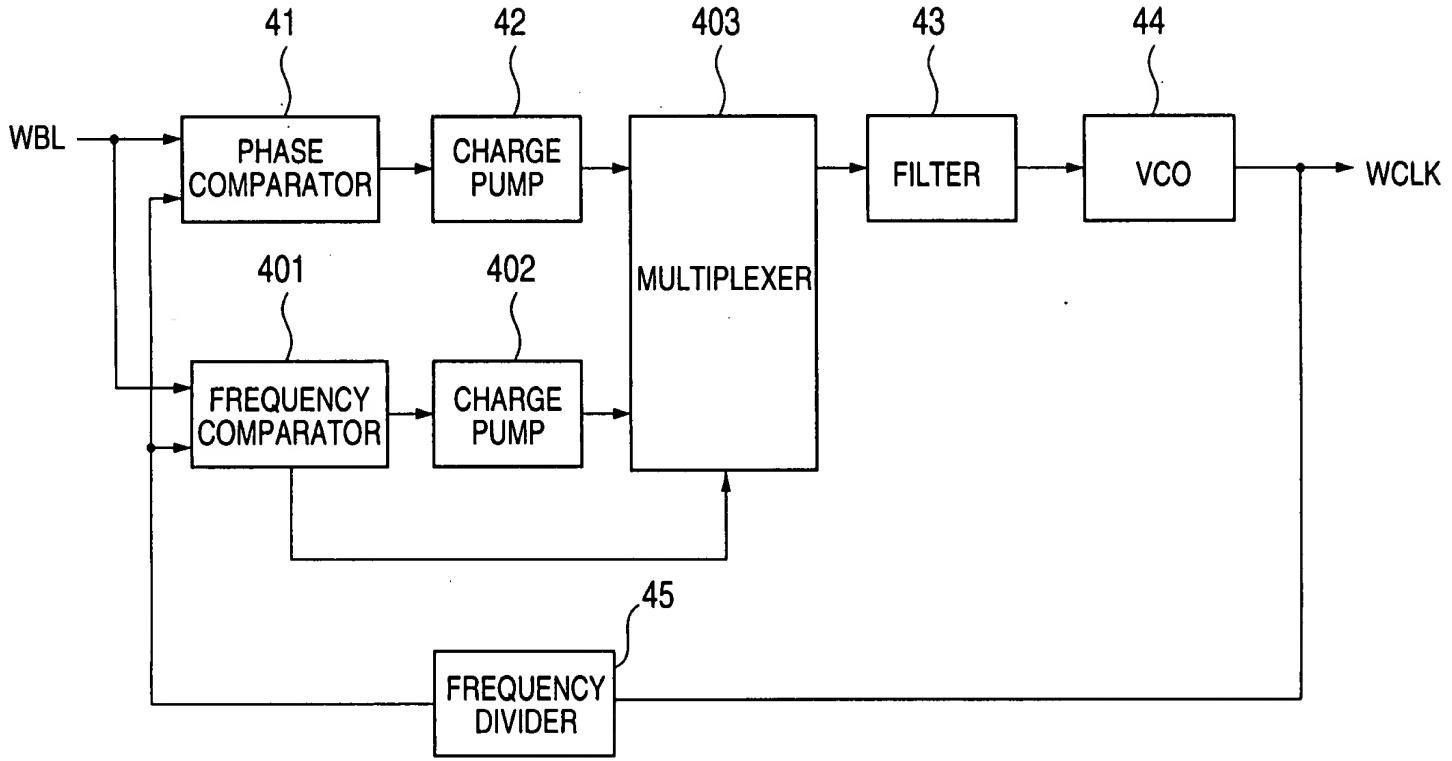


FIG. 15

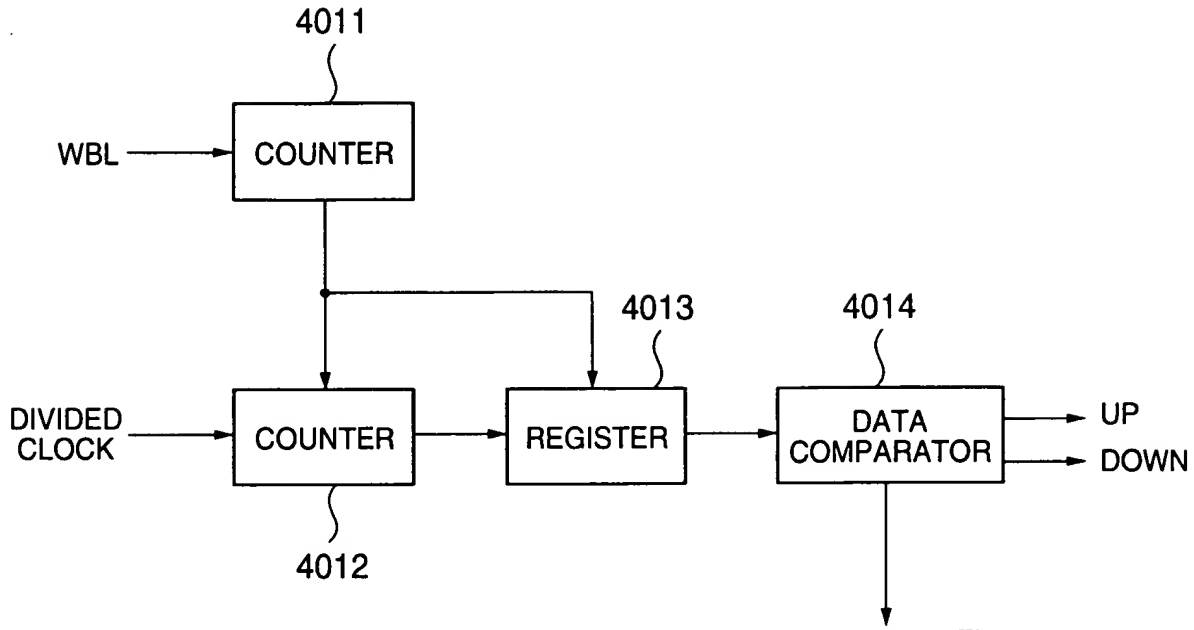
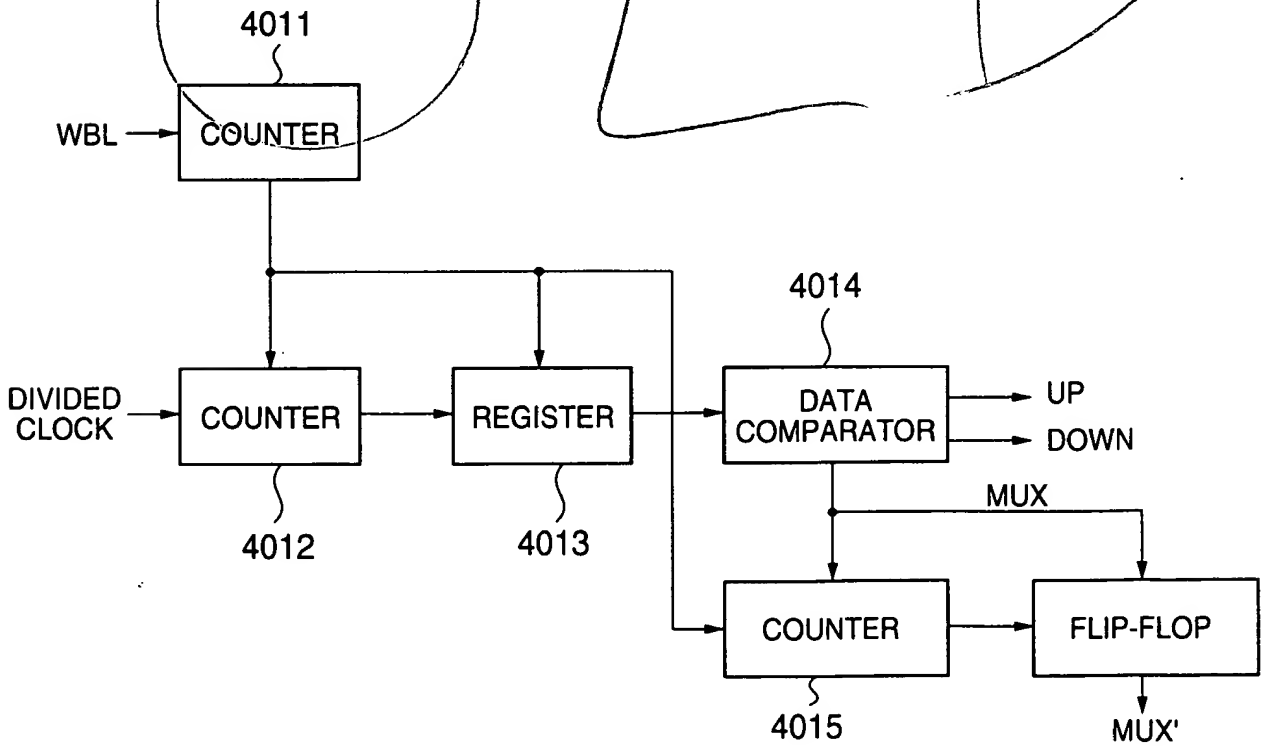

4011
WBL
COUNTER
4013
4014
DIVIDED CLOCK
COUNTER
REGISTER
DATA COMPARATOR
UP
DOWN
4012
MUX

FIG. 16


4011
WBL
COUNTER
4014
DIVIDED CLOCK
COUNTER
REGISTER
DATA COMPARATOR
UP
DOWN
MUX
4012
4013
COUNTER
FLIP-FLOP
4015
MUX'